

# Strategic HR Management with an Aging Workforce

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# Demographic Models

- Demographic models can be used to project changes in the size and age distribution of national populations.
- Can they be employed to analyze the age structure of a firm and how it changes in response to specific HR policies?

# Firm Demographics

- Size of labor force
- Age structure of labor force
- Employment and compensation policies to achieve the desire labor force

# Firm Demographics

- HR policies are developed as part of strategic plan of employer
- HR policies are used to attract, retain, motivate, and retire workers.

# Firm Demographics

- Births, deaths, and immigration?
- Hiring, firing, deaths, and retirements
- Can demographic models be used to predict the future?

# Optimal Labor Force?

Is there an optimal LF?

Optimal number of workers

Optimal age structure

Determinants of optimal LF

age specific productivity

age and cost of workers

# Demographic Equilibrium

- Stable demand for product
- Optimal size and age structure of labor force
- HR policies replicate labor force year after year

# Labor Force Dynamics

- Demand for product changes
- Labor force needs change
- HR policies adjust
- Resulting changes in age structure and size of labor force

# Modeling Demographic Change

- Using administrative records
- Determining age structure and tracking its change
- Determining transition rates and their stability
- Assessing implications of changing HR policies

# Brain Drain or Excess Number of Older Workers?

- As the baby boom cohort ages, some employers face a large loss of experience and institutional knowledge in the next few years
- Other employers worry that the baby boomers will remain on the job and limit employment opportunity for younger employees

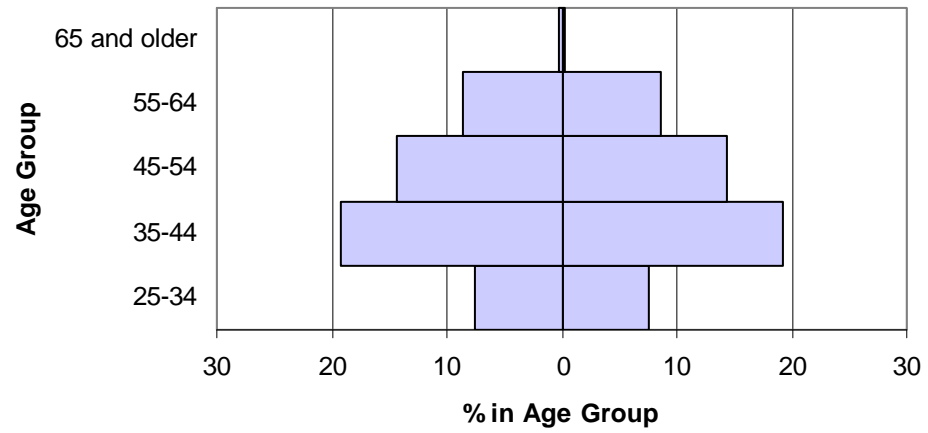
# University of North Carolina

- Employment records 1982-2002
- Faculty at 15 campuses
- Rapid growth 1982-1992; slower growth 1992-2002
- Exit rates low and relatively stable

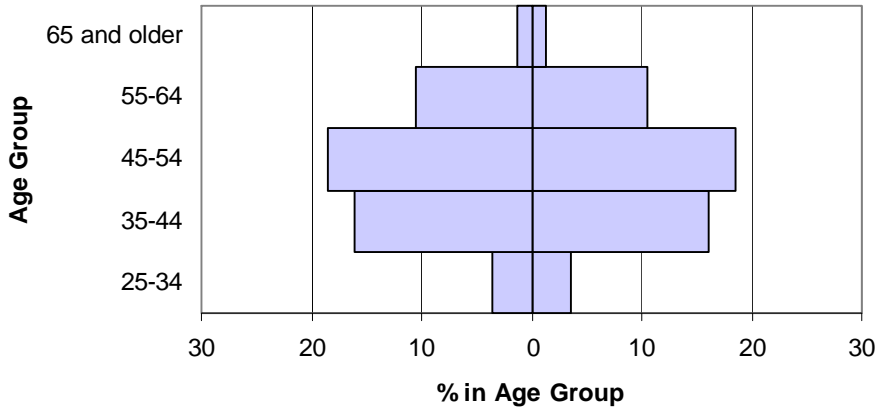
# Faculty Age Structure

<u>Age Group</u>	<u>1982</u>	<u>1992</u>	<u>2002</u>
25-34	15.2	7.0	6.8
35-44	38.6	32.3	23.4
45-54	28.6	37.1	36.9
55-64	17.1	21.0	28.8
65 and older	0.4	2.6	4.1

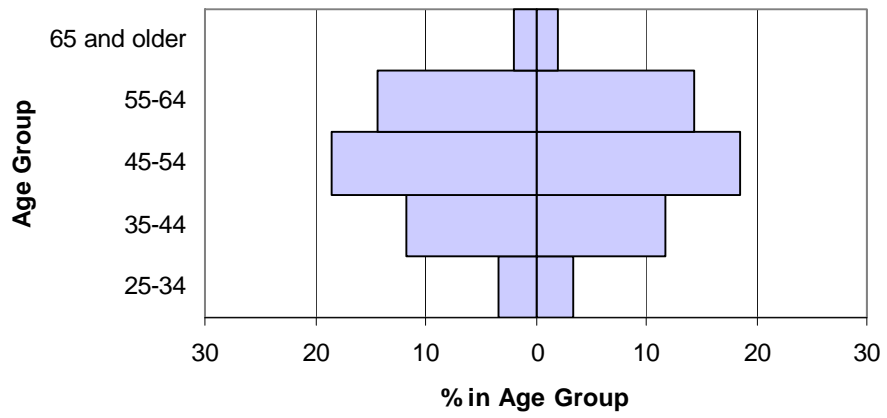
### 1982 Faculty Age Structure



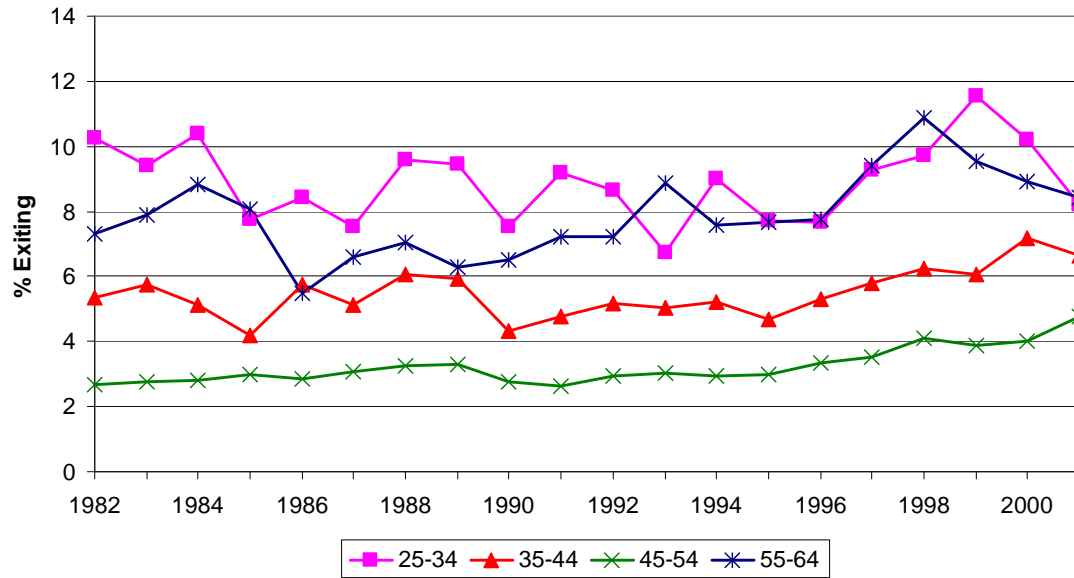
### 1992 Faculty Age Structure



### 2002 Faculty Age Structure



### Exit Rates by Age Group, 1982-2001



# Using Demographic Models in HR Planning

- Calculate age specific exit rates from past data
- Determine future size of LF from strategic plan of employer
- Predict the number of workers leaving
- Total expected new hiring equals replacements plus growth

# Using Demographic Models in HR Planning

- Determine hiring strategy, i.e. age specific hiring rates
- Project impact on the future age structure of LF

# Using Demographic Models in HR Planning

- Employer can now consider whether the predicted age structure is consistent with desired age structure
- If predicted age structure is not optimal, employer can alter employment and compensation policies

# Predicting Change in UNC Faculty

- Assume in 1992, administrators knew the desire faculty size in 2002 and had employment records back to 1982.
- Calculate age specific exit rates and the required gross hiring rates (replacements plus net growth), assume age specific hiring rates consistent with past policies.

# Predicting Change in UNC Faculty

- Simulate the change in age structure and faculty size over the next ten years.
- This process yields a predicted labor force in 2002 that is similar in size but slightly younger than the actual 2002 labor force.

# HR Policies Matter

- Employment and compensation policies influence:
  - Exit rates
  - Retirement rates
  - Age of hiring

# Pension Plans

- Defined benefit pension plans reduce turnover rates
- Defined benefit pension plans alter the timing of retirement
- Defined contribution plans are more portable and tend to be age neutral on retirement age

# Retirement Policies

- Changes in mandatory retirement policies influence timing of retirement
- Phased retirement policies can influence retention and aid planning for future hiring

# Employment Practices

- Part-time vs. full time
- Contracting out of services

# Concluding Observations

- Demographic models can be a useful tool for employers
- Using employment records, managers can predict:
  - Age specific turnover rates
  - Retirement rates
  - Future age structure of LF
  - Hiring needs